

REMARKS

In paragraph 3 of the Action, claims 20-22, and 24-31 were rejected under 35 U.S.C. 103(a) as being unpatentable over Cameron (1,567,706) et al. in view of Pfister (1,340,137).

In view of the rejections, claim 20 has been amended to include a part of the subject matter of claim 29, and claim 29 has been amended accordingly. New claims 32-35 have been filed to further limit the invention.

As recited in amended claim 20, a cutting device of the invention cuts four edges of a recording medium. The cutting device includes a feed path for feeding the recording medium, an end cutter for cutting leading and trailing edges of the recording medium transferred in the feed path, and a side cutter for cutting two side edges of the recording medium fed in the feed path. The feed path has a curved portion in a middle thereof so that a transfer direction of the recording medium transferred in the feed path is forcibly changed at the middle thereof. The side cutter is located at the curved portion of the feed path to securely cut the recording medium along the transfer direction while providing stiffness to the recording medium at the curved portion.

In the invention, a pair of first feed rollers is formed in the feed path for transferring the recording medium to the curved portion. Also, the side cutter includes axes, two pairs of rotary blades formed on the axes, and transfer rollers provided on the axes for feeding the recording medium. The two side edges of the recording medium are cut while the recording medium is transferred fed along the transfer rollers and changing the transfer direction. Further, a containing section is disposed under the side cutter and the end cutter for receiving a part of the recording medium cut by the side cutter and the end cutter as waste.

In Cameron et al., a machine for converting a web into sheets includes a slitting device consisting of a rotatable smooth faced

backing member 1 and score-cut slitters 2, pull rolls 4, 5 at a downstream side of the web, and knives 6, 7 as a transverse severing device. The slitters 2 are placed to contact the backing member 1, so that the web is cut by the slitters 2 on the backing member 1.

In Cameron et al, the web 3 led between the rotatable smooth faced backing member 1 and the slitters 2 and cut longitudinally into several sections are led to the pull rollers 4 and 5, and then pass between the rotating knife 6 and the stationary knife 7 for cutting transversely into sheets 8. The sheets 8 drop on a belt 9 and are conveyed to a hopper 10.

In the invention, the end cutter cuts the leading and trailing edges of the recording medium transferred in the feed path, and the side cutter cuts the two side edges of the recording medium fed in the feed path. The containing section is disposed under the side cutter and the end cutter for receiving a part of the recording medium cut by the side cutter and the end cutter as waste.

In Cameron et al, the rotatable smooth faced backing member 1 and the slitters 2 cut the web 3 longitudinally. However, no portion of the web 3 is removed. Then, the rotating knife 6 and the stationary knife 7 cut the sections transversely into the sheets 8. Again, no portion of the sections is removed. The whole portion of the sections (the sheets 8) is conveyed to the hopper 10 for storing the products. In Cameron et al., there is no containing section disposed under the side cutter and the end cutter for receiving a part of the recording medium cut by the side cutter and the end cutter as waste.

Therefore, Cameron et al. does not disclose or suggest the features of the invention as recited in claim 20.

In Pfister, a cutter includes a reciprocating cutting mechanism A for cutting longitudinal ends of a sheet, and a longitudinal cutting mechanism B. The longitudinal cutting

mechanism B includes rotary cutting blades 35 and 36 located on shafts 10 and 13. Pulleys 24 and 25 are disposed over the shaft 10 to urge the cutting blades 36 toward the cutting blades 35 by springs 39. Carrier belts 20 and 21 are disposed between the cutting mechanisms A and B, and the pulleys 24 and 25 contact the belts 20 and 21, so that the sheet cut by the cutting mechanism B is transferred to the cutting mechanism A.

In the invention, the side cutter includes axes, two pairs of rotary blades formed on the axes, and transfer rollers provided on the axes for feeding the recording medium, so that the recording medium is fed along the transfer rollers while changing the transfer direction. In Pfister, the shaft 13 carries the cutting blades 35 and pulleys 17 and 18 with grooves 19 for the belts 20 and 21, and the shaft 10 carries the cutting blades 36 and the pulleys 24 and 25 contacting the belts 20 and 21. In Pfister, there are no transfer rollers of the invention. The structure of the side cutter of the invention is different from that disclosed in Pfister.

In the invention, also, the containing section is disposed under the side cutter and the end cutter for receiving a part of the recording medium cut by the side cutter and the end cutter as waste. In Pfister, there is no containing section of the invention.

Therefore, Pfister does not disclose or suggest the features of the invention as recited in claim 20.

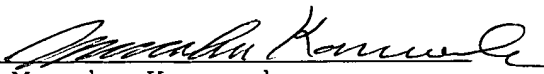
Dependent claims now added in the application include features not disclosed or suggested in the cited references.

As explained above, the cited references do not disclose or suggest the features of the invention as recited in claim 20. Even if the cited references are combined, the invention is not obvious from the cited references.

Reconsideration and allowance are earnestly solicited.

Respectfully Submitted,

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